Table 2.—Effect of Steroids upon Extra .Liver Glycogen Production by DL Alanine

	1 Alanine + steroid	2 Alanine	3 Steroid	4 Change
	Percent	Percent	Percent	
Cortisone, I.M. 24 hours	7.3	3.3	1.9	+2.1
Cortisone, Oral 6 hours	4.2	3.3	1.0	−0.1.
Hydrocort., I.M. 16 hours	5.1	3.3	2.5	−0.7
Hydrocort., Oral 6 hours	5.8	3.3	2.5	0.0

Column 4 is the difference between column 1 and the sum of columns 2 and 3.

DISCUSSION

Both cortisone and hydrocortisone acetates, given orally, stimulated glycogen production in the livers of fasting rats. Hydrocortisone acetate was more effective than cortisone acetate, working more rapidly and producing more glycogen. Peak production, however, was reached at the same time, between 12 and 16 hours, for both compounds. When given intramuscularly cortisone acetate produced liver glycogen more rapidly than hydrocortisone acetate for the first 6 hours and then hydrocortisone acetate became more effective. A dip in glycogen production occurs at 16 hours for hydrocortisone acetate and at 24 hours for cortisone acetate, followed by a rise. Both compounds are about equally effective at 48 hours.

One series of experiments was run with 2.5 mg oral doses of hydrocortisone acetate, this was almost as effective as the 5.0 mg dose at the end of 12 hours when 3.6 percent glycogen was formed, but at the end of 16 and 24 hours the values were 1.1 and 1.2 percent, respectively.

The only effect upon liver glycogen production by DL alanine was induced by the intramuscular cortisone acetate. Since only one of the four series of experiments showed any stimulation of liver glycogen formation it becomes increasingly doubtful that the liver glycogen produced by the steroids in the fasting animals comes from amino acids, unless the amino acids released from tissue protein breakdown behave differently from those fed. This phase of the problem is now under investigation using isotopic labeled amino acids and proteins.

SUMMARY

1. Cortisone and hydrocortisone acetates were administered to fasting white rats intramuscularly and orally and liver glycogen was determined. Hydrocortisone acetate, orally, produced more liver glycogen more rapidly than did cortisone acetate. Intramuscularly cortisone acetate acted more rapidly than did hydrocortisone acetate for the first 6 hours and then hydrocortisone acetate was more effective.

2. Cortisone acetate, given intramuscularly, stimulated the production of extra liver glycogen when DL alanine was fed. Oral cortisone acetate, oral and intramuscular hydrocortisone acetate had no such effect.

BOTANY.—Cenchrus *and* Pennisetum: *Fascicle morphology.*[1] Ernest R. Sohns, U. S. National Museum. (Communicated by Agnes Chase.)

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The grass genera *Cenchrus* and *Pennisetum* have clusters of spikelets that are grouped into fascicles, two florets in each

spikelet, the lower floret staminate or abortive, the upper floret fertile, and the spikelets surrounded by bristles in varying degrees of fusion. The similarity of the fascicles in several species of *Cenchrus* and *Pennisetum* makes it difficult to separate the genera in taxonomic keys. Some species have been referred first to one genus and then to the other. (Cf. Ewart and Davies, 1917; Hackel, 1887; Hitchcock, 1936, 1951; Stapf, 1917).

This morphological study was undertaken to determine the organization of the fascicles of these two genera. This paper concerns the fascicles of eight species of *Cenchrus* and six species of *Pennisetum*.

Literature review.—Goebel (1884) studied two species of *Cenchrus* (*C. echinatus* and *C. spinifex*) and concluded that the involucre was formed by the coalescence of two branch systems. On the adaxial face of the fascicle the two branch systems do not coalesce. According to Goebel, the involucre resulted from the formation of wall-like proliferations between the bristles so that, at a later stage, the bristles of the involucre appear to originate from the wall surrounding the spikelet. Bristles which occur later on the "wall" of the involucre, Goebel asserted, might be considered "emergencies." He considered these to have arisen by branching, their mode of origin having been obscured by early coalescence of the "individual bristle generations." He stated that the lateral "shoots" of a primary branch may be abortive and form spines instead of a spikelet and that shoots (Sprossungen) destined to be spines may form spikelets. He believed that the series *Setaria-Pennisetum-Cenchrus* constitute an evolutionary sequence and *"Cenchrus"* originated from a form which possessed a *Setaria*-like involucre." Chase (1920) agrees with Goebel's interpretation of the bur, but stated that she used the term without morphological significance in her revision of the genus.

According to Bews (1929), the involucre is composed of sterile branchlets, and the term involucre is probably not the most suitable one. He suggested that genera having involucres might be arranged in a sequence, based on the degree of involucral complexity, beginning with the genus *Anthephora*, in which there is an involucre formed of first glumes, through *Odontelytrum*, *Setaria*, *Pennisetum*, and other genera, culminating in the genus *Cenchrus*.

Arber (1931) examined three species of *Cenchrus* (*C. echinatus*, *C. inflexus* [*C. inflexus* R. Br., 1810, not Poir. 1804 = *C. brownii* Roem. & Schult.] and *C. myosuroides*). She regarded the bristles of *Cenchrus*, *Pennisetum* and *Setaria* as simple structures, mostly with one vascular bundle, and concluded that they are more like stems than leaves because an occasional bristle may terminate with an abortive spikelet. She agreed with Goebel's interpretation of the

involucre of *Cenchrus* and attributed the absence of the first glume and lodicules to the pressure of the concentric involucre.

Arber (1931) examined six species of *Pennisetum* (*P. macrostachyum*, *P. macrourum*, *P. ciliare*, *P. unisetum*, *P. nubicum* and *P. petiolare*). The last three species have only one bristle in each fascicle. The long bristle was regarded as a continuation of the fascicle axis. The fused bristles of *P. ciliare* are believed to foreshadow the involucre of *Cenchrus*. She concluded that a generalized scheme for the fascicles of *Setaria* and *Pennisetum* is not feasible and that each ultimate bristle-shoot is equivalent to a spikelet. The association of bristles with spikelets in *Pennisetum* and *Cenchrus* represents sterilization according to Arber (1934). The conclusion that each ultimate bristle-shoot is the equivalent of a spikelet was reiterated.

Materials and method.—These species were grown in the greenhouse and garden at Indiana University during 1946–1949. Specimens are deposited in the Herbarium of Indiana University.

Inflorescences, fascicles and spikelets were collected and processed by standard methods in microtechnique. Serial sections, cut at 15 microns, were stained with safranin and fast green. Drawings were prepared with the aid of a camera lucida.

Cenchrus incertus, *Pennisetum alopecuroides* and *P. purpureum* were collected by the writer. Mr. W. M. Buswell, University of Miami, provided seeds of *C. gracillimus* and Mr. G. E. Ritchey, Gainesville, Florida, supplied plants of *P. ciliare*. Seeds of all other species were obtained from the collection of Dr. Paul Weatherwax. Agnes Chase, Smithsonian Institution, identified *C. setigerus*.

I. Cenchrus L.

Discussion.—A diagrammatic, medium longisection of a fascicle (bur) is shown in Fig. 1. This diagram shows three spikelets, each with two florets, and the surrounding involucre. This generalized version of the bur may be applied to the species of *Cenchrus* included here except *C. myosuroides*, whose fascicle has only one spikelet.

Diagrammatic transsections, drawn from serial sections of a fascicle (bur) of *Cenchrus echinatus* at successively higher levels, are shown in Fig.
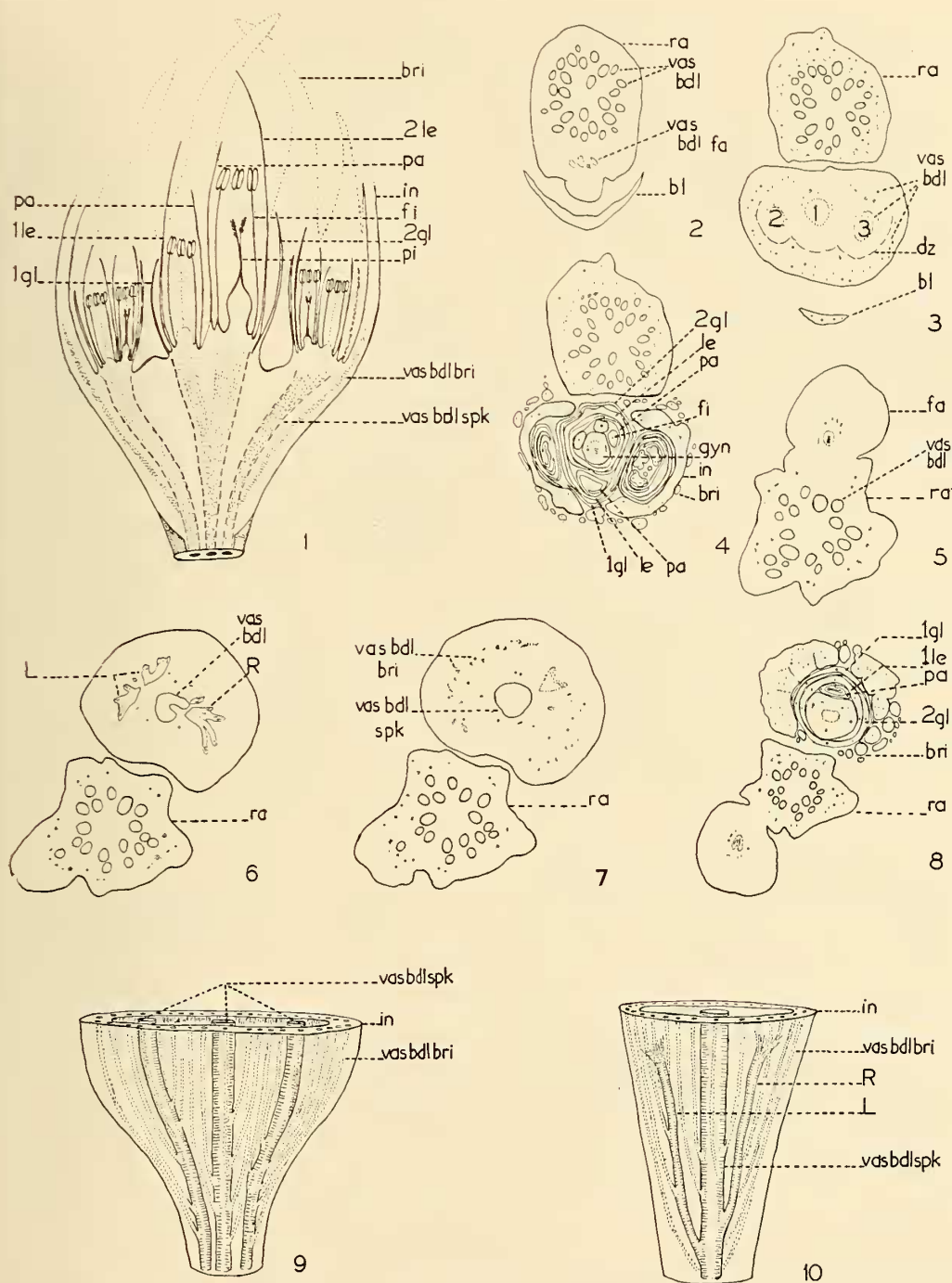
FIGS. 1–10.—1, Diagrammatic median longisection of a typical fascicle of *Cenchrus* with the various structures of the central spikelet labeled; 2–4, diagrammatic transsections of the rachis and fascicle of *C. echinatus*; 5–8, diagrammatic transsections of the rachis and fascicle of *C. myosuroides*; 9, diagrammatic representation of the vascularization of a typical fascicle of *Cenchrus*; 10, diagrammatic representation of the vascularization of the fascicle *C. myosuroides*. *bl*—blade; *bri*—bristle; *d z*—"demarcation zone"; *fa*—fascicle; *fi*—filament; *gyn*—gynoecium; *1 gl*—first glume; *2 gl*—second glume; *in*—involucre; *1 le*—lemma of lower floret; *2 le*—lemma of upper floret; *L*—left vascular bundle; *pa*—palea; *pi*—pistil; *R*—right vascular bundle; *ra*—rachis; *sta*—stamen; *vas bdl*—vascular bundle; *vas bdl bri*—vascular bundle of the bristle; *vas bdl spk*—vascular bundle of the spikelet. Figs. 1, 9, and 10, diagrammatic and not drawn to scale; 2–7, ca. × 25.

2–4. In Fig. 2, a diagrammatic transsection of the rachis (ra) and a blade (bl) is shown. The vascular bundles (vas bdl) of the rachis and the fascicle (vas bdl fa) are indicated. In Fig. 3, the three vascular bundles of the spikelets are indicated as 1, 2 and 3. A demarcation occurs between the involucral wall and the base of the three spikelets, indicated in the figure as d z. The small dots in the periphery of the fascicle represent vascular bundles which may be traced to the bristles. These same vascular bundles extend downward and join the vascular supplies to the spikelets. The bases of the three spikelets of the fascicle, with various floral parts labeled, are shown in Fig. 4. The involucral wall is divided into two halves (left and right) with a few separate bristles (bri) around the margin. The involucral wall separates on the adaxial and abaxial sides opposite the keels of the glumes of the central spikelet. Pressure exerted by the expanding central spikelet may influence the separation of the involucre into two parts. Contact between the fascicle and the rachis provides additional pressure on the adaxial face, especially before the inflorescence is exserted from the sheath. The left and right halves of the involucre, at this level, suggest that the fascicle of Cenchrus is composed of a two-branch system. This is misleading because the vascular supplies of the bristles appear as individual vascular bundles, concentrically, over a short vertical distance on the axis of the vascular supply for the fascicle. (Fig. 9, a diagram of the vascularization of the fascicle of this species, indicates the relationship of the vascular tissues of the spikelets and bristles). The involucre does not represent the coalescence of a two-branch system as heretofore thought, but is the result of the lateral fusion of many sterile branches of approximately equal rank. None of these branches may be assigned to a "left" or a "right" branch system. This interpretation applies to C. gracillimus Nash, C. incertus M. A. Curtis, C. pauciflorus Benth., C. pilosus H. B. K., C. setigerus Vahl, and C. brownii.

The spikelets are 2-flowered, the lower staminate or abortive and the upper perfect. Occasionally the first glume may be absent in one of the lateral spikelets. Lodicules were not found in the florets of the species of Cenchrus studied.

Cenchrus myosuroides H.B.K. represents what appears at first to be a deviation from the usual involucral pattern in Cenchrus. Nash (1903) thought that C. myosuroides should be segregated as a distinct genus. Diagrammatic transsections of a fascicle of this species are shown in Figs. 5–8. Fig. 5 represents the rachis and base of the fascicle. In Fig. 6, the areas designated "L" and "R" represent lateral vascular bundles, but the fascicle contains only one spikelet. The presence of lateral vascular bundles, which terminate blindly, suggests that the lateral spikelets are suppressed. In Fig. 7, the involucral wall, with its numerous vascular bundles, surrounds the single spikelet. The involucral wall, like that of other species of Cenchrus, is divided into a left and right half. The separation of the involucral wall occurs adaxially on the rachis side as well as abaxially opposite the median nerve of the first glume (1 gl). At the level of Fig. 8, the bases of the involucral bristles and the base of a new fascicle on the lower left are shown. Fig. 10 is a diagram of the vascularization of the fascicle of C. myosuroides. The spikelet is 2-flowered; the lower staminate or abortive and the upper perfect.

Summary (Cenchrus).—Fascicle organization in these species is uniform. The vascular bundles of the bristles, surrounded by a large amount of parenchymatous tissue at the base, may be traced to the axis of the vascular supply of the spikelets, all merging concentrically over a short vertical distance. The separation of the involucre into two halves, i.e., with the appearance of the ad- and abaxial clefts and subsequent upward separation into individual bristles suggests a "two-branch" vascular system. The expression "two-branch" vascular system means one in which a vascular branch originates on each side

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Figs. 11–31.—11–15, Diagrammatic transsections of a fascicle of P. glaucum; 16, diagrammatic representation of the vascularization of the fascicle of P. glaucum; 17–21, diagrammatic transsections of the fascicle of P. alopecuroides; 22–26, diagrammatic transsections of the fascicle of P. peruvianum; 27–30, diagrammatic trans-sections of rachis and fascicle of P. purpureum; 31, diagrammatic representation of the vascularization of the fascicles of P. alopecuroides, P. peruvianum and P. purpureum. ab—abortive spikelet; an—anther; ax—axis of fascicle; bri—bristle; fi—filament; 1 gl—first glume; 2 gl—second glume; gyn—gynoecium; in—involucre; L—left vascular bundle; 1 le—lemma of lower floret; 2 le—lemma of the upper floret; lod—lodicule; pa—palea; par—parenchyma; R—right vascular bundle; rud—rudiments of the lower floret; scl—sclerenchyma; ss—sclerenchyma sheath; vas bdl—vascular bundle. Figs. 11–15, 17–30, ca. × 25; 16 and 31, diagrammatic and not drawn to scale.
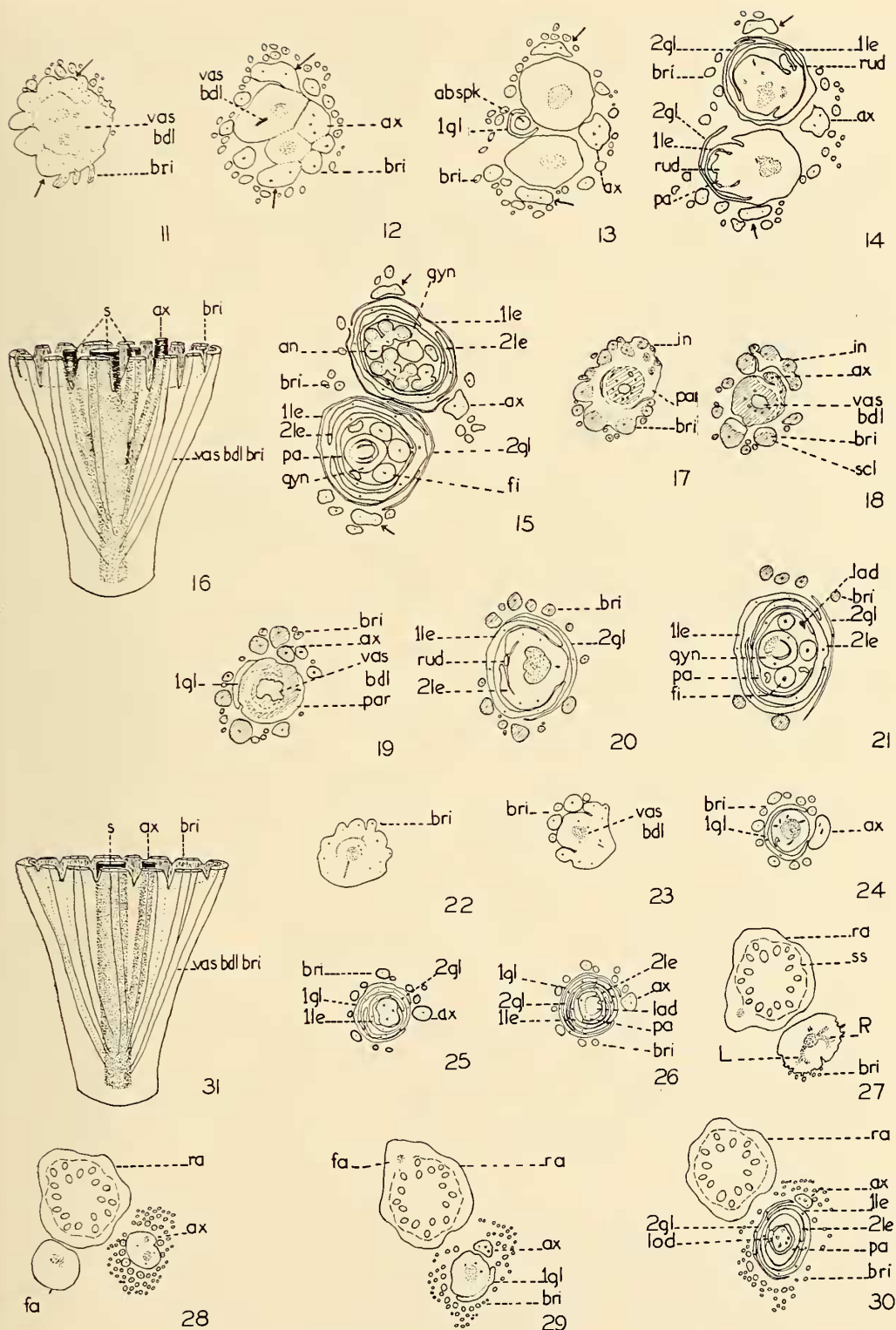
Figs. 11–31.—(See opposite page for legend).

of a central vascular plexus; each of these vascular branches may be traced to a group of bristles on the left and right side of the fascicle, respectively. The appearance of the ad- and abaxial clefts in the bur, giving the fascicle a definite two-parted appearance, is to be attributed primarily to the pressure exerted by the expansion of the central spikelet. The proximity of the fascicle to the rachis, on the adaxial face, provides additional pressure which may influence the appearance of adaxial cleft, especially before the inflorescence is exserted from the sheath.

The fascicle in these species contains from one to five spikelets which terminate the axis; there is no real axis terminus in the genus *Cenchrus*, but the spikelets themselves are terminal in an inflorescence whose axis has become shortened and whose lateral branches have become sterile. The bristles, which represent first-order branches and their lateral members, have vascular supplies which may be traced to the vascular axis of the fascicle, joining the axis concentrically over a short vertical distance; these belong neither to a left nor to a right branch system. (Cf. Fig. 9 and 10). The relationship of the first-order branches and their lateral members has become obscured through a decrease in the length of the fascicle axis and the appearance of a large amount of parenchymatous tissue at the base of the fascicle.

C. myosuroides has a one-spikelet fascicle. The suppressed lateral spikelets are represented by two lateral vascular bundles which terminate blindly in the periphery of the fascicle. Otherwise the organization of the fascicle of *C. myosuroides* is like that of the other species of *Cenchrus* included here.

II. PENNISETUM L. RICH.

Discussion.—Four fascicle patterns are recognizable in the six species of *Pennisetum* studied: (1) *P. glaucum*, with fascicles having more than one spikelet; (2) *P. alopecuroides*, *P. peruvianum* and *P. purpureum* have one-spikelet fascicles; (3) *P. ciliare* and (4) *P. clandestinum* have specialized fascicles.

P. glaucum (L.) R. Br. has 2 or 3 spikelets in each fascicle. Figs. 11–15 represent diagrammatic transsections of a fascicle of this species. Fig. 11 shows the bristles (*bri*) and the vascular bundles (*vas bdl*) in the base of the fascicle. Fascicle organization of this species differs from that of the others studied in that, in addition to the fascicle

axis, each spikelet appears to have an axis continuation of its own. These structures, indicated in Figs. 11–15 by arrows, may be axes subtending the spikelets. The fascicle axis (*ax*), shown in Fig. 12, is not a component of the involucral bristle system because the vascular bundles for this structure are situated higher on the axis of the vascular system than the vascular bundles for the involucral bristles. The relationship of the various parts of the fascicle is shown in Figs. 13–15. In Fig. 13 an abortive spikelet (*ab spk*) is shown. The lower florets in both spikelets are abortive and the rudiment (*rud*) of a lower floret is indicated. Fig. 16 is a diagram of the vascularization of the fascicle of *P. glaucum*. The vascular bundles of the spikelets (*s*) and the axis (*ax*) are stippled. The vascular bundles of the bristles are indicated by solid lines which join the vascular system of the spikelets and axis.

The fascicles of *P. alopecuroides* (L.) Spreng. usually have one spikelet. A series of transsections is shown in Figs. 17–21. Fig. 17 shows the base of the involucre (*in*). The bases of the bristles (*bri*) are shaded to represent sclerenchymatous (*scl*) tissue. The fascicle axis (*ax*), shown in Fig. 18, is not a component of the involucral bristle system. Figs. 19–21 show the relationship of structures in the fascicle at successively higher levels.

P. peruvianum Trin., another species with one-spikelet fascicles, is shown in Figs. 22–26. The pattern of the fascicle is similar to that of *P. alopecuroides*, i.e., acropetally on the axis of the fascicle appear the bristle system of the involucre, the axis continuation and the spikelets.

The diagrammatic transsections shown in Figs. 27–30 represent selected levels through a one-spikelet fascicle of *P. purpureum* Schumach. In Fig. 27, a transsection of the base of the fascicle and rachis (*ra*) is shown. The position of a sclerenchyma sheath (*s s*), which is present from the base to the apex of the rachis, is shown also. A left and right vascular branch (*L* and *R*), shown in the fascicle, may be traced downward to the vascular supply of the central spikelet. Each vascular branch (*L* and *R*) terminates abruptly in the periphery of the fascicle. These vascular branches (*L* and *R*) suggest that the lateral spikelets of the fascicle have been suppressed. (Cf. Fig. 6 and 10 of *Cenchrus myosuroides*). The vascular supply of the long bristle (*ax*), indicated in Fig. 28, appears higher on the vascular axis of the fascicle than the vascular

Figs. 32–44.—32–36, Diagrammatic transsections of a fascicle of *P. ciliare*; 37, diagrammatic representation of the vascularization of the fascicle of *P. ciliare*; 38–43, diagrammatic transsections of the fascicle of *P. clandestinum*; 44, diagrammatic representation of the vascularization of the fascicle of *P. clandestinum; an*—anther; *bri*—bristle; *fa*—fascicle; *fi*—filament; *1 gl*—first glume; *2 gl*—second glume; *gyn*—gynoecium; *in*—involucre; *1 bri*—left involucral bristle system; *1 le*—lemma of lower floret; *2 le*—lemma of the upper floret; *pa*—palea; *ra*—rachis; *r bri*—right involucral bristle system; *s*—spikelet; *ss*—sclerenchyma sheath; *sti*—stigma; *vas bdl*—vascular bundle; *vas sup*—vascular supply. Figs. 32–36, 38–43, ca. × 25; 37 and 44, diagrammatic and not drawn to scale.

supplies of the other bristles and is clearly not part of the bristle system of the involucre. Fig. 31 is a diagram representing the vascularization of the fascicle of *P. alopecuroides, P. peruvianum* and *P. purpureum.* The vascular bundles of the spikelets (*s*), the fascicle axis (*ax*) and the involucral bristles (*bri*) are indicated. The vascular supply of the axis continuation (*ax*) joins the vascular system of the spikelet higher on the vascular axis than the vascular bundles of the bristles. Fascicles of these three species have one spikelet and a recognizable axis continuation in the form of a long bristle.

P. ciliare (L.) Link is a species which has an involucre with bristles fused at the base to form a distinct cup-like structure surrounding the spikelets. One bristle of this system is longer and larger than the others. Figs. 32–36 represent a series of diagrammatic transsections through a fascicle. Fig. 32 shows the rachis (*ra*) and fascicle (*fa*) and a vascular bundle (*vas bdl*). The fascicle has a single vascular bundle at this level which may be traced downward to the vascular system of the culm. The rachis of this species (and of *P. alopecuroides*) has a sclerenchyma sheath (*s s*) encasing the central portion of the rachis from the base to the top.

In Figs. 33–34 the numerous vascular bundles to the bristles are shown. The two vascular bundles indicated by arrows in Fig. 33 may be traced to the longest bristle in the fascicle. In this species the long bristle, which is interpreted as the fascicle axis, appears to be of equal rank with the other bristles of the involucre. The fascicle axis in the other five species of *Pennisetum* is separate and distinct from the involucral bristle system. The vascular supply of the fascicle axis may be traced to an area above the insertion of the vascular bundles of the involucral bristles on the central vascular system. Fig. 35 and 36 show the organization of the fascicle and the relationship of the large bristle (fascicle axis) to the spikelets. Fig. 37 is a diagram representing the vascularization of the fascicle of this species.

In *P. clandestinum* Hochst. ex Chiov. the entire inflorescence is enclosed in the leaf sheaths and is not exserted before or during anthesis. The short inflorescence has from 4 to 6 spikelets, each with two florets, all surrounded by leaf sheaths; consequently the exsertion of anthers and stigmas is apparently limited to the terminal florets in the inflorescence. The filaments are unusually thick and may elongate up to 2.5 cm during anthesis.

Figs. 38–42 represent diagrammatic transsections through a fascicle (*fa*) and rachis (*ra*). Fig. 38 shows the base of the fascicle (*fa*) with the vascular bundle (*vas bdl*) of the spikelet and the base of a bristle (*bri*) system on the right. In Fig. 39, the base of a bristle (*bri*) system is shown on the left. Figs. 40–43 show the relationship of the spikelets and floral organs at successively higher levels. Fig. 44 is a diagram representing the vascularization of the fascicle of this species. A prominent bristle is not readily distinguishable in the left (*1 bri*) or right (*r bri*) bristle systems of the involucre.

Summary (Pennisetum).—Fascicles of these species of *Pennisetum* have a sterile axis terminus which is clearly recognizable as a long bristle whose vascular bundle joins the vascular system of the fascicle above that of the vascular bundles of the involucral bristles and below that of the spikelets on the vascular axis. Four fascicle patterns were found in the six species of *Pennisetum* studied. The fascicle of *P. glaucum* represents those species which have more than one spikelet per fascicle; *P. alopecuroides, P. peruvianum* and *P. purpureum* have one spikelet in each fascicle. *P. ciliare* has a fascicle in which one of the *involucral* bristles is longer than the others and is apparently of equal rank with the other bristles in the involucre, but it may be regarded as the axis of the fascicle. The vascular bundle of this bristle appears at the same level as the vascular bundles of the other bristles. These vascular bundles, which may be traced to the vascular axis of the fascicle, are slightly larger than the vascular bundles which may be traced to the involucral bristles. *P. clandestinum* has an inflorescence which is entirely enclosed in the concentric leaf sheaths and shows a high degree of specialization, especially in the reduction of the number and size of the bristles and the development of stamens whose filaments elongate to bring the anthers out of the florets and surrounding leaf sheaths.

There are three distinct "zones" on the vascular axis of the fascicle: (1) the lowest, from which diverge the vascular bundles of the bristles, (2) the vascular supply of the long bristle (axis continuation), and (3) the vascular supplies of the spikelets.

Summary.—This paper is concerned with the organization of the fascicles of eight species of

Cenchrus and six species of *Pennisetum*. The basic pattern of the fascicles of all species of *Cenchrus* included here is similar.

The spikelets themselves are terminal in the fascicles of *Cenchrus*, and the bristles represent sterile first-order axes and their branches all fused laterally, these at one time belonging to an elongated inflorescence whose axis has become shortened and whose lateral branches have become sterile.

C. myosuroides has a 1-flowered fascicle, but possesses two lateral vascular bundles which terminate blindly, suggesting that the fascicle may have possessed three spikelets at one time.

The two-partedness of the involucres may be attributed primarily to the enlargement of the central spikelet and not, as heretofore maintained, to a "two-branch" system.

Four fascicle patterns were found in the six species of *Pennisetum*. In five of these species the axis of the fascicle is prolonged as a prominent bristle which is interpreted as an axis continuation. The fascicle of *P. ciliare*, with the bases of the bristles fused laterally, resembles the fascicles of *Cenchrus*, but the presence of the long bristle (the fascicle axis) places the species in *Pennisetum*. The highly modified inflorescence of *P. clandestinum*, enclosed in leaf sheaths, shows the influence of pressure on the involucre, namely, that there is no clearly recognizable long bristle, the bristles are separated into two systems (left and right) and the bristles themselves are small and thin.

The presence of the usually prolonged, sterile axis of the fascicles of *Pennisetum* may be used to separate this genus from *Cenchrus*, whose fascicle axis is terminated by spikelets.

This study indicates the need for an analysis of the fascicles of those species of *Pennisetum* which have no recognizable fascicle axis (long bristle).

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ZOOLOGY.—*Two new* Nephtys (*Annelida, Polychaeta*) *from San Francisco Bay.* R. B. CLARK and MEREDITH L. JONES, University of California, Berkeley, Calif. (Communicated by Paul L. Illg.)

The Nephtyidae of the Pacific coast of North America have been described and reviewed by Hartman (1938, 1940, 1950). However, the polychaetes of San Francisco Bay have never been studied adequately, and of three distinguishable *Nephtys* found there two require some discussion. The known species is *Nephtys caecoides* Hartman, the other two have been named as a new species and subspecies respectively. The types have been deposited in the U. S. National Museum.

Nephtys parva, n. sp.
Fig. 1, *a–f*

Description.—Prostomium a blunt oval, longer than broad and widest halfway along its length. Anterior margin convex. The paired nuchal organs are at the posterolateral margins of the prostomium but cannot be detected when they are inverted. Proboscis with 22 rows of subterminal papillae, six in a row, the proximal one or two of which are very small. There is no median unpaired papilla, and the proximal part of the proboscis is smooth. Recurved branchiae from